



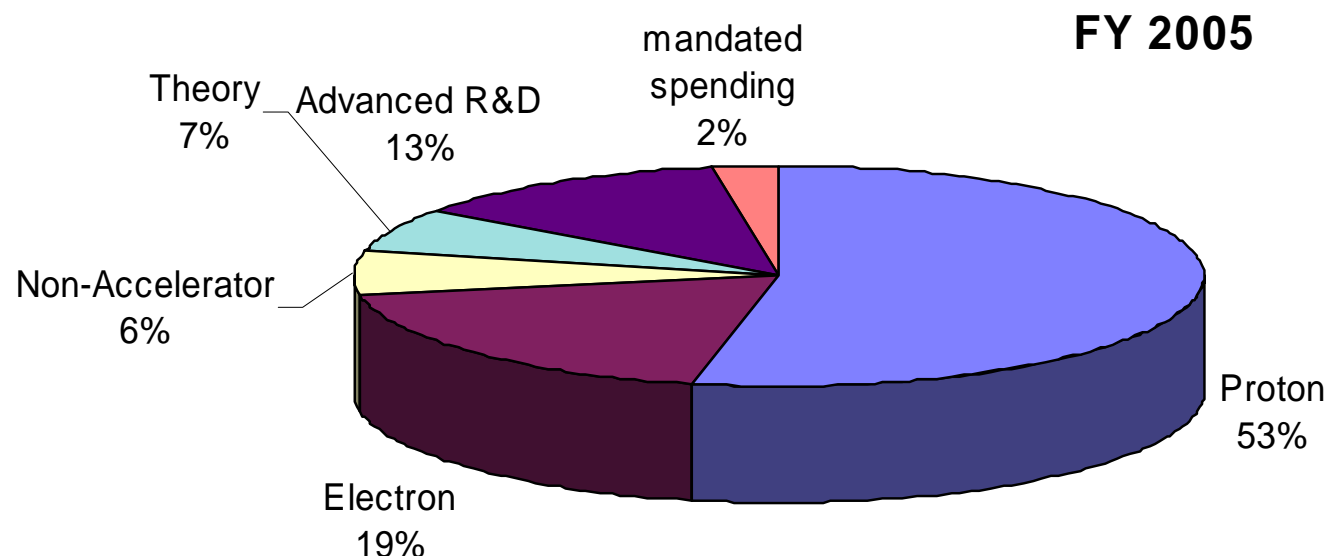
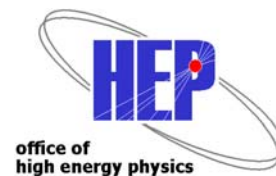
Resource Trend & Distributions

DOE High Energy Physics Program

Report to HEPAP
May 18, 2005



Composition of DOE HEP Program - FY 2005



- Proton Accelerator-based: Tevatron, LHC, Neutrinos
- Electron Accelerator-based: B-factory
- Non Accelerator-based: particle astrophysics & cosmology
- Advanced R&D: Accelerator and Detector R&D, including ILC R&D
- Mandated spending: SBIR, STTR etc

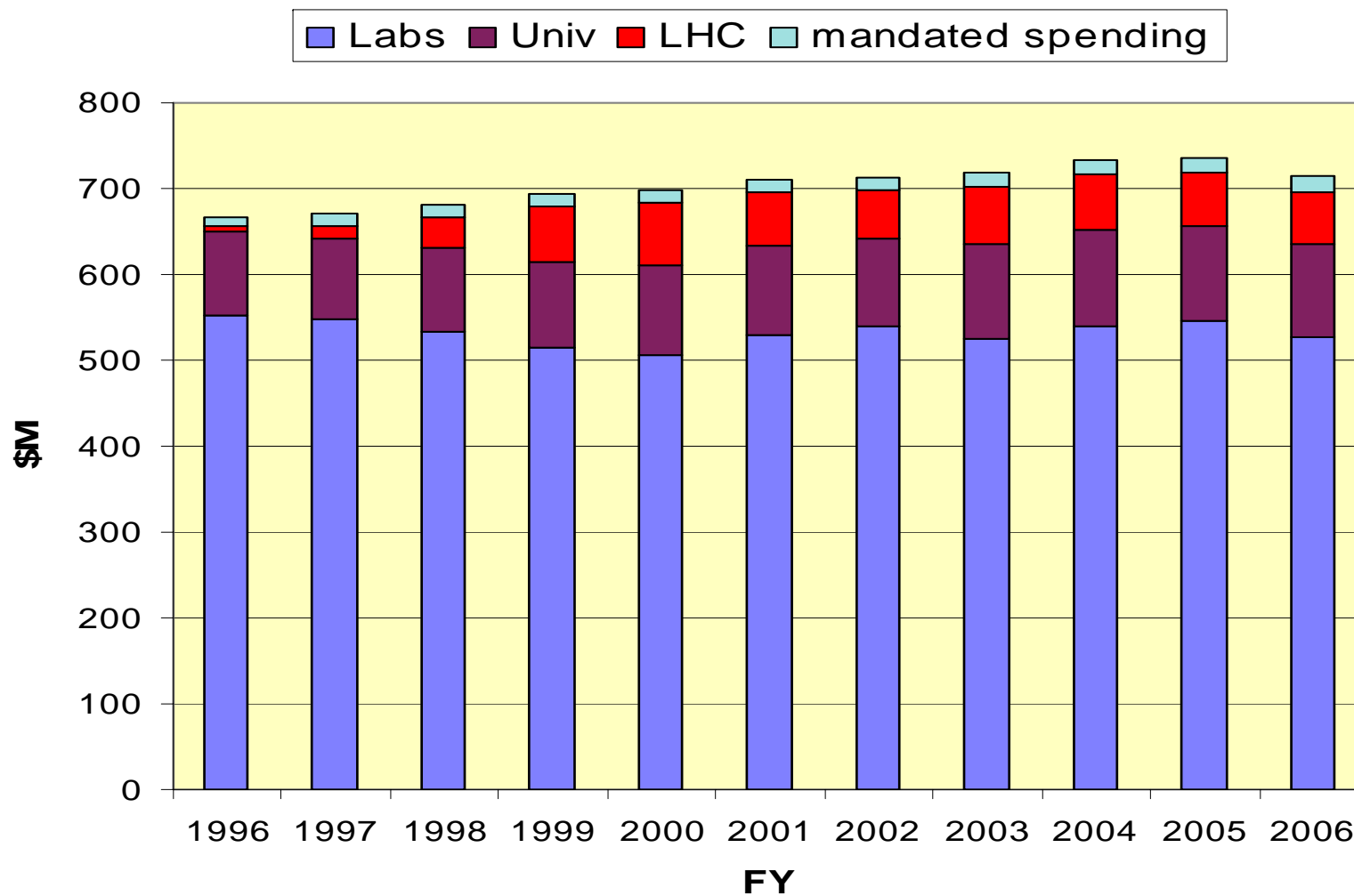
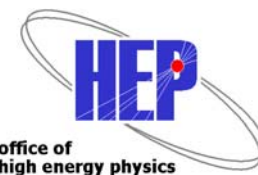


Funding History



OHEP Funding History

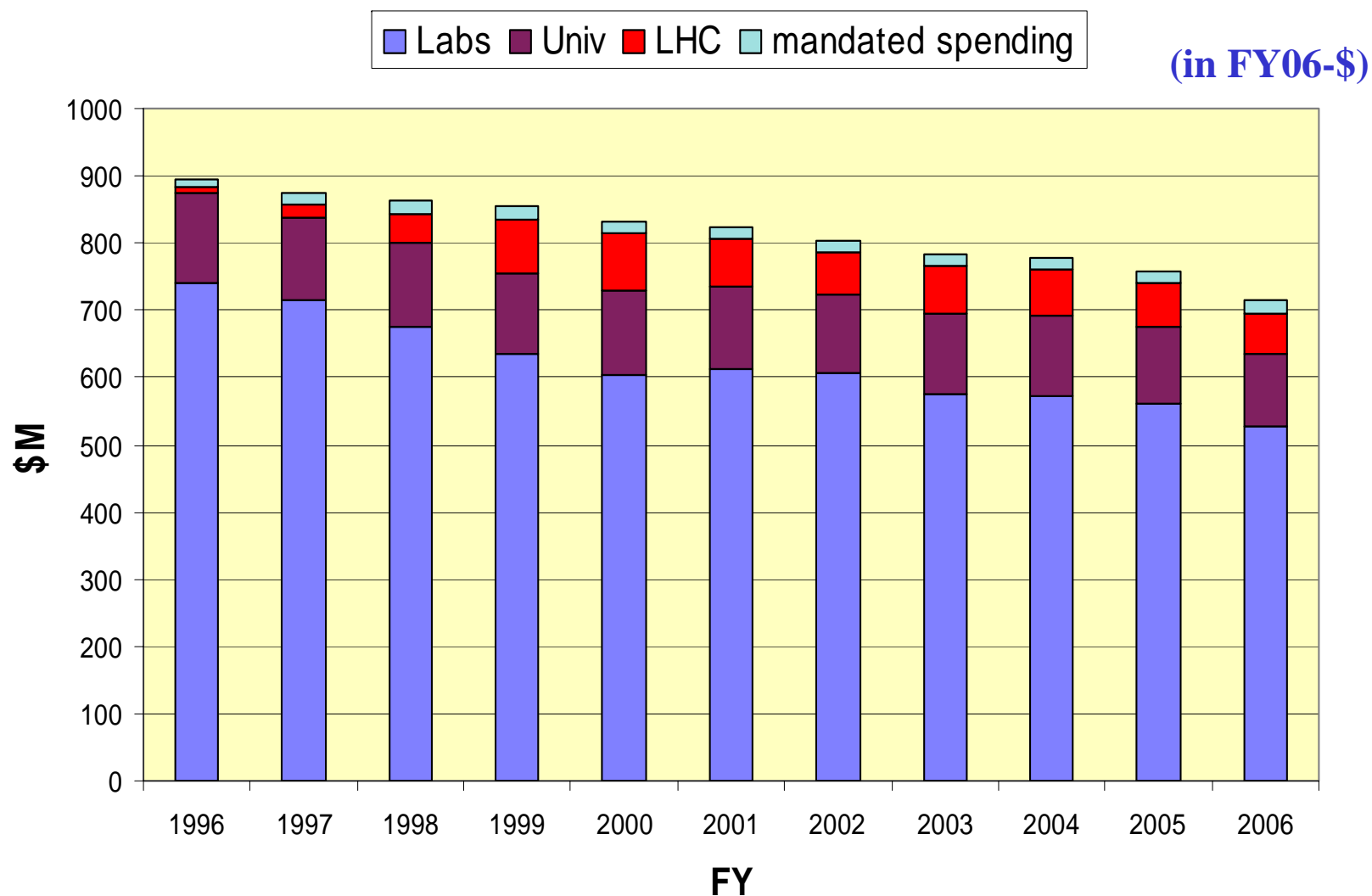
As Spent \$ (Then Year \$)





OHEP Funding History

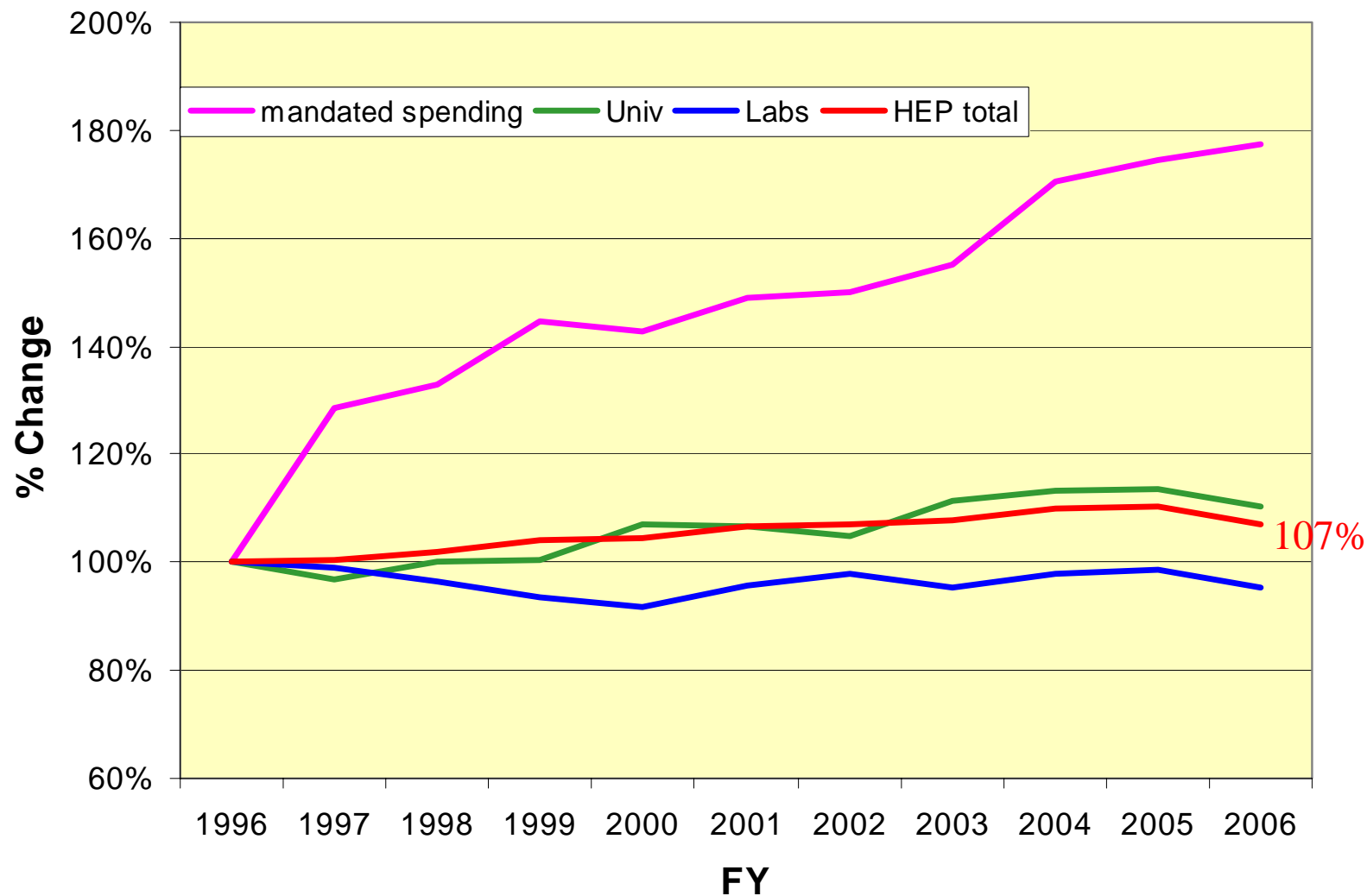
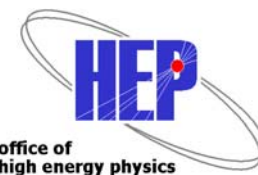
in \$(FY06) with 3% per year inflation factor used





OHEP Funding History

% changes of as-spent-\$ starting 1996

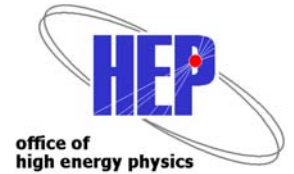




Human Resource Data



OHEP University Research Program Statistics from FY 2001



NOTE: Only includes Experimental and Theory Research Program at Universities

102 Universities, 236 Groups

FY 1992

75 Accelerator-based Experiments
32 Not-accelerator Experiments
68 Theoretical Physics

FY 2001

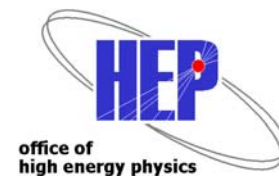
77 Accelerator-based
36 Non-Accelerator
72 Theory

FY 2001 DOE-funded FTE's (% Change since FY 1992)

Program	# faculty	# postdocs/research Scientists	# graduate students	TOTAL
Theory	225 (-17%)	110 (-16%)	116 (-37%)	451
Experiment Accelerator Based	284 (-3%)	332 (+28%)	312 (-26%)	928
Experiment Not Accelerator Based	35 (-8%)	36 (-14%)	35 (-24%)	106
TOTAL	544 (-10%)	478 (+10%)	463 (-30%)	1485 (-12%)



OHEP University Research Program Statistics from FY 2004

**FY 2004**

101 Universities; 235 Groups
 74 Accelerator-based Experiments
 32 Experiments not at accelerators
 68 Theoretical Physics

FY 2001

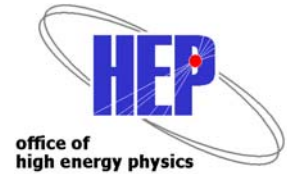
102 Universities, 236 Groups
 77 Accelerator-based
 36 Non-Accelerator
 72 Theory

FY 2004 DOE-funded FTE's (% Change since FY 2003)

Program	# faculty	# postdocs/research Scientists	# graduate students	TOTAL
Theory	212 (-1%)	98 (-5%)	120 (+5%)	430
Experiment Accelerator Based	276 (-2%)	318 (+3%)	321 (+2%)	915
Experiment Non Accelerator Based	46 (+15%)	50 (+15%)	48 (+15%)	144
TOTAL	534	466	489	1489



Laboratories in FY04-FY05



- Measures taken by laboratories: continued from FY02-FY03
 - Voluntary retirement or layoff program
 - No-refill for natural attrition other than critical positions
 - Defer or reduce annual or merit raises
 - Reduce travel
 - Reduce new hires (postdocs, students etc)

Increase in cost of doing business besides inflation

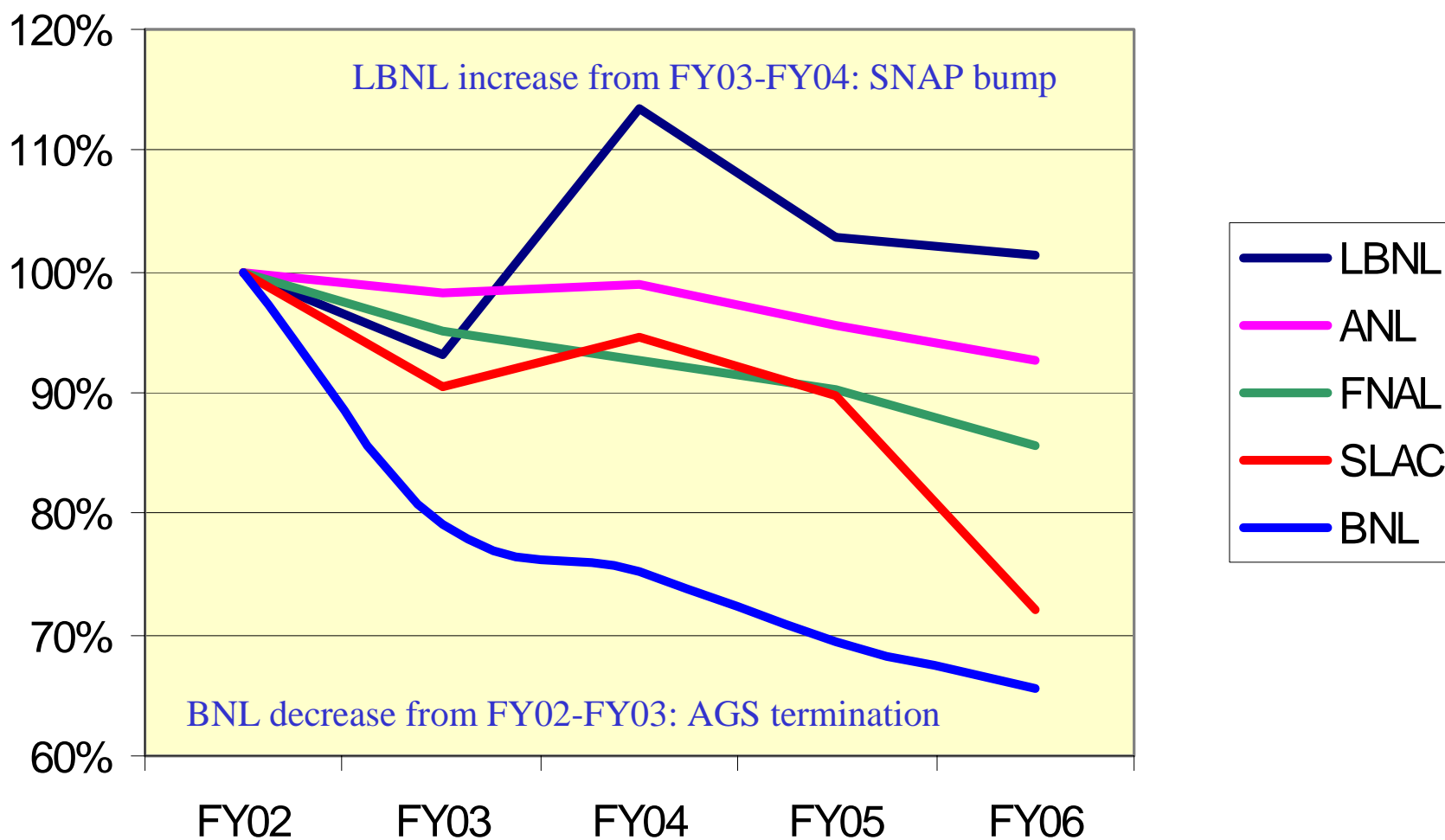
- Compliance to regulations
 - Environmental Protection
 - Safety & Security
- Infrastructure maintenance:
 - guidance: achieve 2% of RPV by FY05 and increase to 4% by FY08
- Benefits (medical insurance, etc)

➔ **Costs more for doing same things**

Many of these measures and impacts
also true for university research program



Laboratory staff reduction - HEP funded staff only

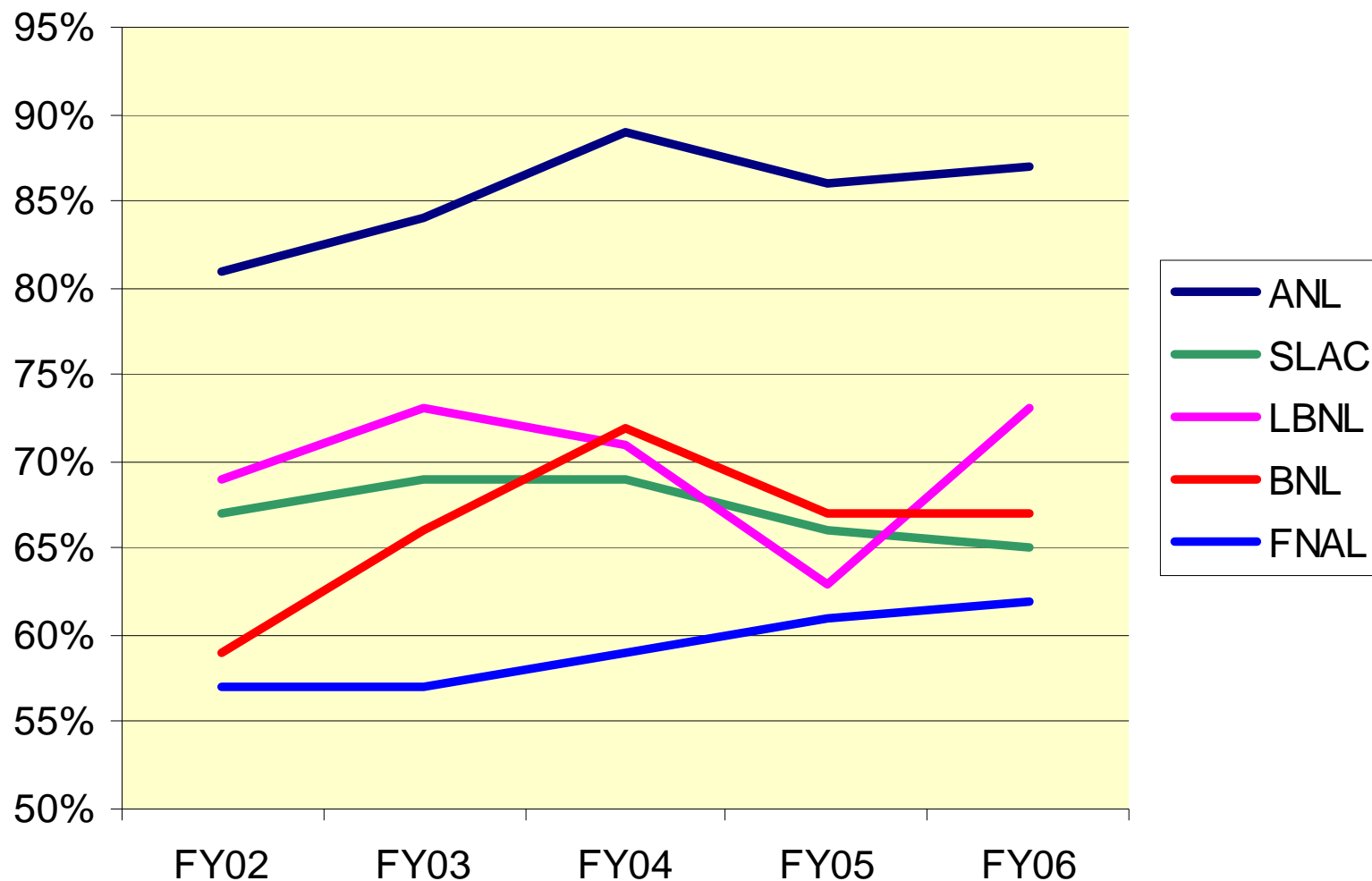




% SWF in total budget

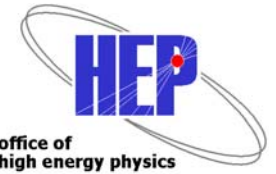


Compared to CERN “effective SWF” in FY03-FY07: ~30%





General Issues & Notes

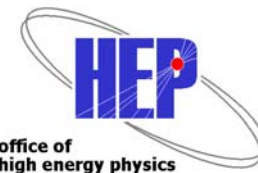


- Budget and staff sizes steadily reduced over past few years
 - Age profile of staff has been raised as a significant concern in all labs during annual program reviews and operations reviews
- Budget dominated by salary
 - CERN “effective” %SWF (include M&S spending by “borrowing from future”) during 2003-2007 is ~30% of its actual total spending per year
- In facilities operations reviews and other assessment processes, FNAL and SLAC were cited for a low level of resource allocation for support activities compared to other labs
 - “stretch out too thin” “stressed” “might not be sustainable”
 - falling behind infrastructure maintenance, human resource service, etc
 - Inadequate support on procurement, legal, etc
- Unless carefully planned and managed, we will be losing foundation of any future initiatives, especially any large initiatives

U.S. Department of Energy



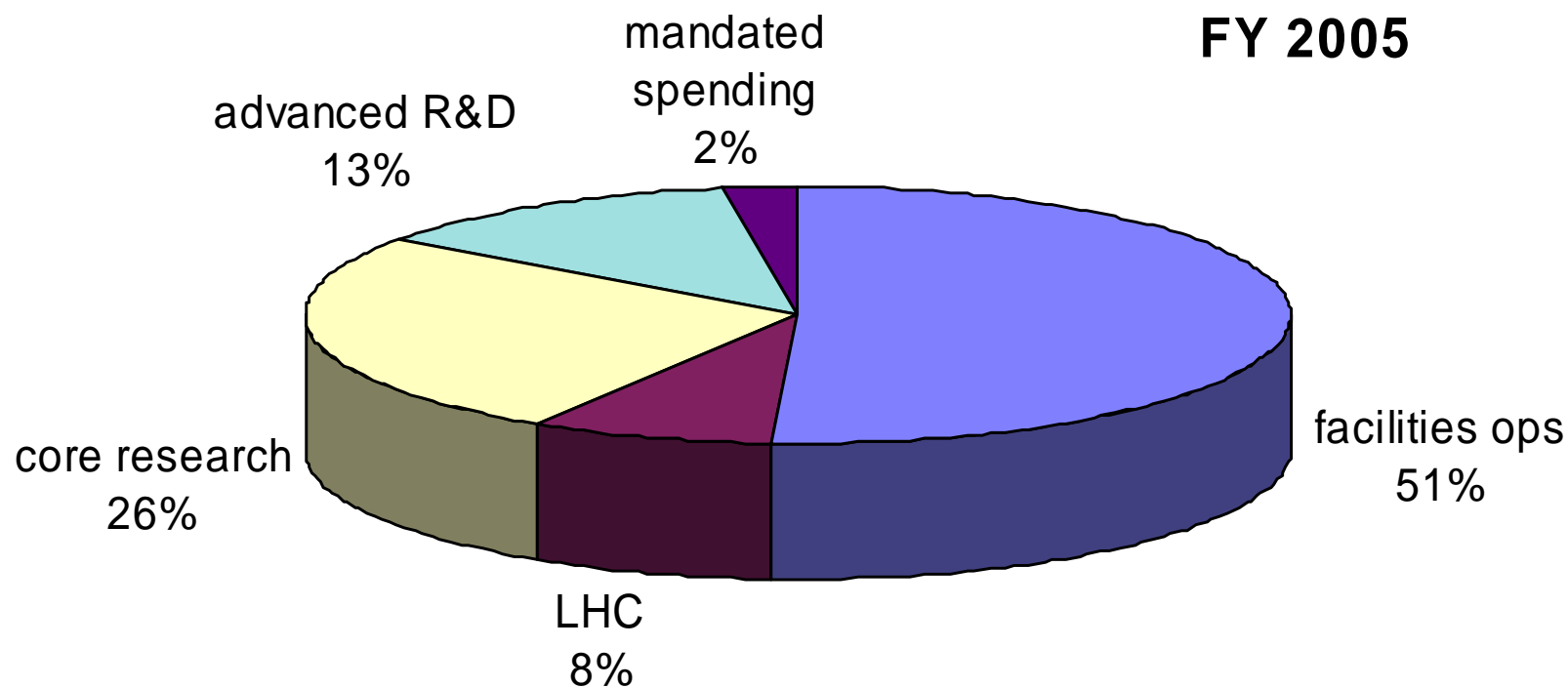
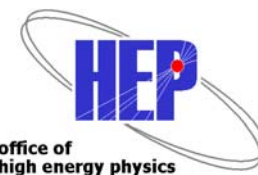
Office of Science



Backup Slides



Composition of DOE HEP Program - FY 2005

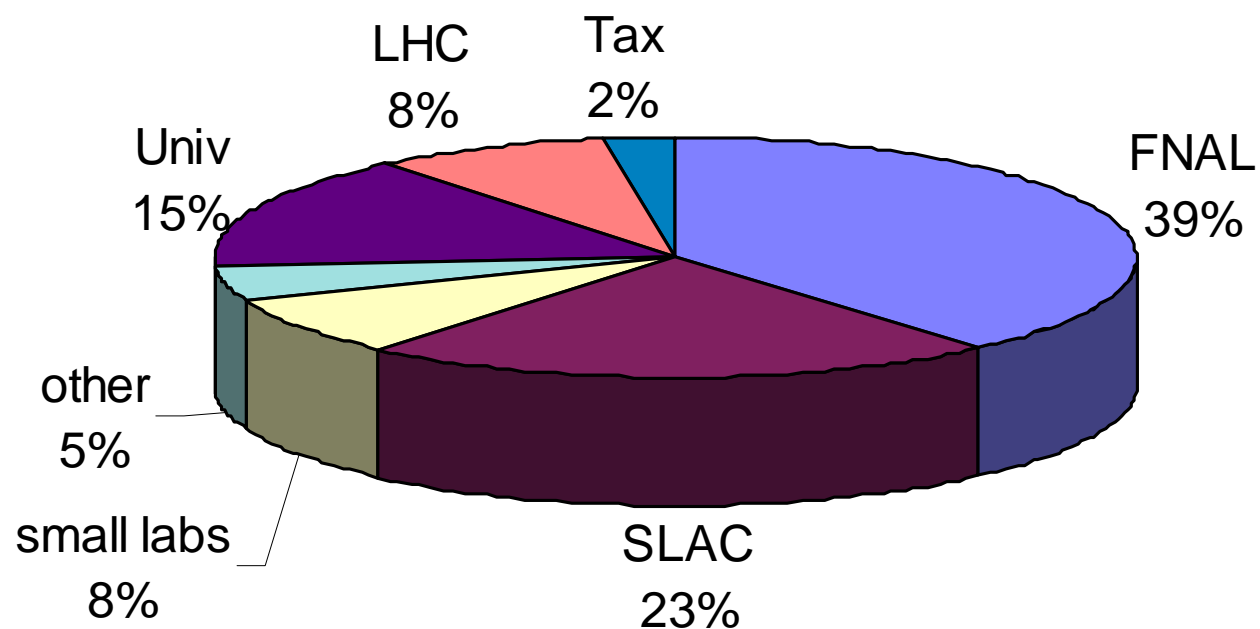


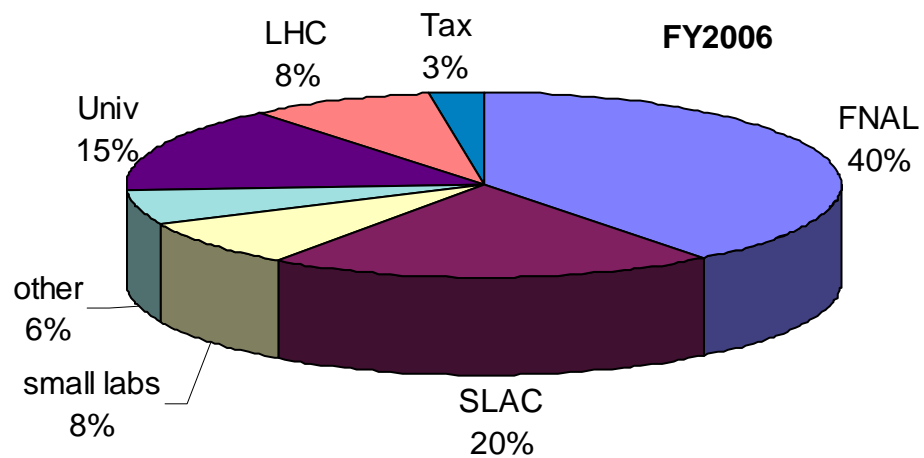
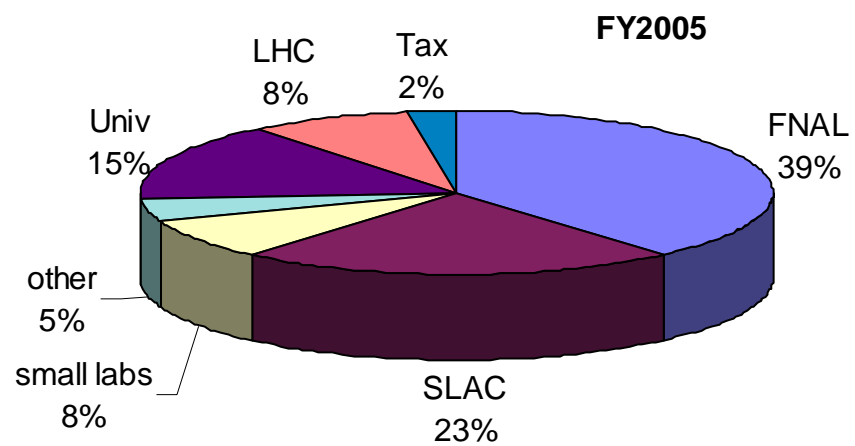
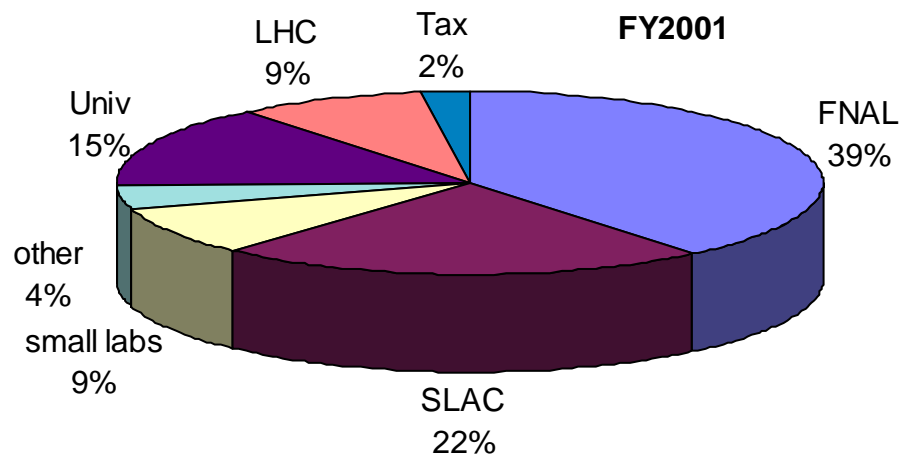
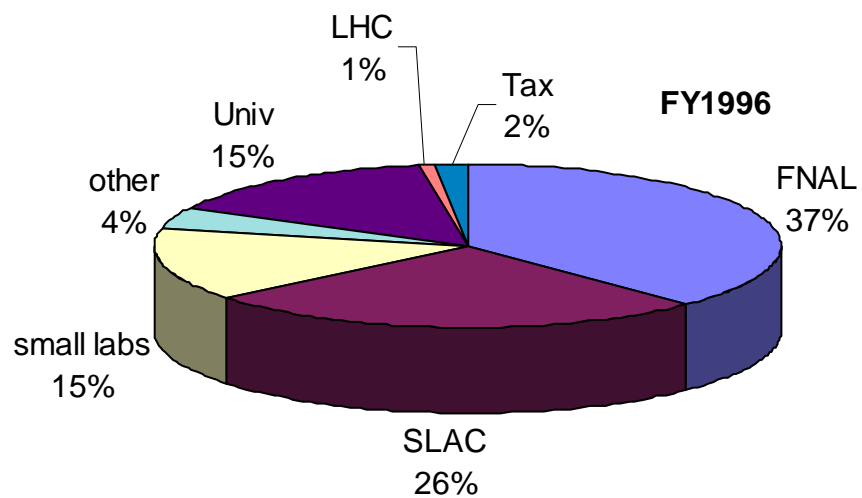


Composition of DOE HEP Program - FY 2005



■ FNAL ■ SLAC ■ small labs ■ other ■ Univ ■ LHC ■ Tax

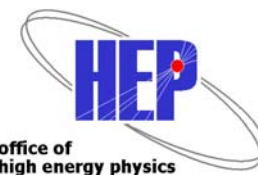




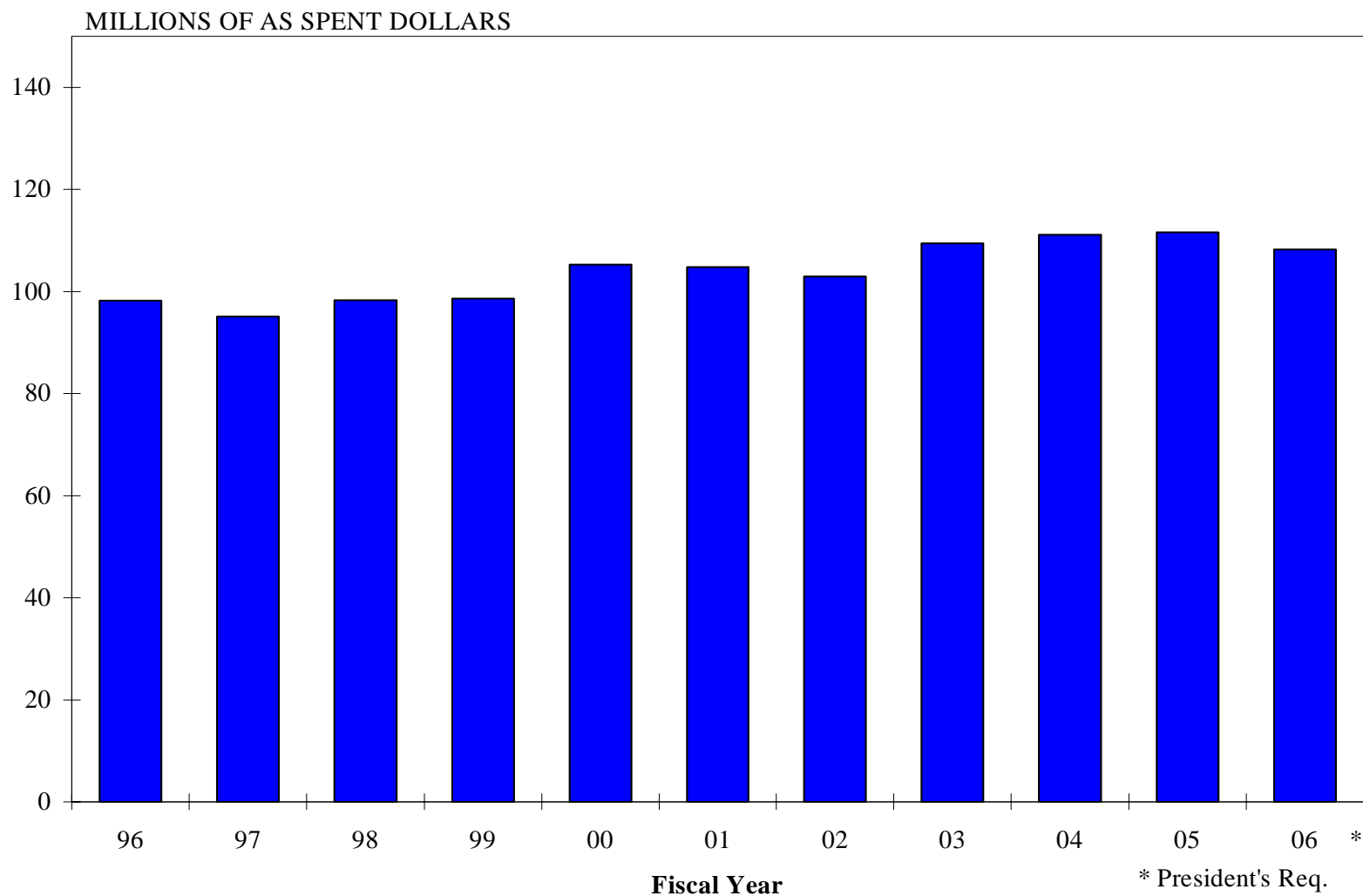
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HEP University Program Funding



HEP University Program Funding





OHEP University Research Program Distribution (FY 2004)

